

Gansner 1999-0730

IN THE CLAIMS:

1. (Currently Amended) A real-time large-scale visualization system for assessing operation of ~~an a telecommunications arrangement~~ that produces and stores signals which represent data, which signals are collected in data files related to operation of said arrangement in on-line storage, comprising:

a visualization interface, including a display;

a plurality of processing tools;

means for accessing a plurality of said data files that had been converted to a self-describing format that includes, in each data file, information about the data in the file, or a data record in one schema file that contains said information and is associated with said file; and

means that enables streaming data of said data files to and through one or more of said processing tools that employ said information to process the data and thereby create data results for updating one or more objects, which one or more objects are displayed by the visualization interface on said display.

2. (Original) The invention of claim 1 wherein the visualization interface provides linked views of the data results.

3. (Original) The invention of claim 2 wherein the visualization interface is capable of presenting a statistical two-dimensional view, a pixel-oriented two-dimensional view, and a dynamic three-dimensional detailed view.

4. (Original) The invention of claim 1 wherein the visualization interface can access the data results as the processing tools are working on the data.

5. (Original) The invention of claim 1 wherein the visualization interface enables selection of a portion of the data results such that data corresponding to the portion selected may be accessed and processed in real-time to create second data results that are displayed on the visualization interface.

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6. (Previously Presented) The invention of claim 1 wherein the processing tools enable creation of new processing expressions that are compiled and dynamically linked to the processing tools.

7. (Original) The invention of claim 1 wherein the data is accessed using Direct IO.

8. (Previously Presented) A method of visualizing large-scale data, collected in the course of operating a system in order to ascertain operational well being of the system, which method enables said visualizing essentially in real-time, comprising the steps of:

accessing from a physical memory a plurality of data files representing said large-scale data, that had been converted to a self-describing format that includes, in each data file, information about the data in the data file, or a record in a schema file that contains said information and is associated with said data file;

streaming data of the accessed data files to and through one or more processing tools, to process the data, utilizing the information, to create data results for updating one or more objects, which one or more objects are adapted for display;

displaying said one or more objects on a visualization interface that includes a display.

9. (Previously Presented) The invention of claim 8 wherein the visualization interface provides linked views of the data results.

10. (Previously Presented) The invention of claim 9 wherein the visualization interface is capable of presenting a statistical two-dimensional view, a pixel-oriented two-dimensional view, and a dynamic three-dimensional detailed view.

11. (Previously Presented) The invention of claim 8 further comprising the step of converting provided data files having a format different from the self-describing into said self-describing format.

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12. (Previously Presented) The invention of claim 8 wherein the visualization interface enables selection of a portion of the data results such that data corresponding to the portion selected may be accessed and processed in real-time to create second data results that are displayed on the visualization interface.

13. (Previously Presented) The invention of claim 8 wherein the processing tools enable creation of new processing expressions that are compiled and dynamically linked to the processing tools.

14. (Previously Presented) The invention of claim 8 wherein the data is accessed using Direct IO.

15. (Previously Presented) The system of claim 1 where at least some of the processing tools are processing pipelines.

16. (Previously Presented) The invention of claim 1 further comprising means for converting applied data files having formats different from said self-describing format into said self-describing format.

17. (Previously Presented) The invention of claim 8 further comprising the step of converting provided data files having a format different from the self-describing into said self-describing format.